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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/540,136	06/21/2005	Hiroyuki Tomita	124408	3574
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EXAMINER				
STRIEB, MICHAEL A				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/540,136

**Applicant(s)**

TOMITA ET AL.

**Examiner**

MICHAEL A. STRIEB

**Art Unit**

2862

**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 02 October 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 89-105 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 89-92 and 96-102 is/are rejected.
- 7) ☒ Claim(s) 93-95 and 103-105 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 June 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 10/02/2008
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. Applicant's amendment filed on October 2, 2008 has been entered. Claims 89-105 are still pending in this application, with claims 89, 97 and 102 being independent. Claims 1-88 have been cancelled.

### ***Claim Objections***

2. Claim 93 objected to because of the following informalities: the claim should be amended as follows: "...the image correction unit executes the second image blur correction by using the input of at least one of the time period information and the timing information.". Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 89-92, 97-98, 100, and 102 are rejected under 35 U.S.C. 102(b) as being anticipated by Misawa et al (US 5,282,044).

Regarding **claim 89**, Misawa et al disclose a blur correction camera system comprising a vibration detection unit that detects a vibration (column 3, lines 52-57); a

blur correction optical system that is driven based upon a detection result of the vibration detection unit to execute a first image blur correction (column 4, lines 1-5); an image capturing unit that captures an image formed with a photographic optical system that includes the blur correction optical system (column 6, lines 46-56); and an image correction unit that executes a second image blur correction through image processing an image captured by the image capturing unit, based on the detection result of the vibration detection unit (column 4, lines 54-62; column 13, lines 47-65).

Regarding **claim 90**, Misawa et al disclose all of the limitations as applied to claim 89 above.

Further, Misawa et al disclose wherein the image correction unit executes the second image blur correction using a point spread function obtained based on the detection result of the vibration detection unit (column 7, lines 9-55).

Regarding **claim 91**, Misawa et al disclose all of the limitations as applied to claim 89 above.

Further, Misawa et al disclose a reference value computing unit that computes a reference value for a vibration detection signal output from the vibration detection unit, wherein the image blur correction unit executes the second image blur correction using the reference value (column 5, lines 9-24).

Regarding **claim 92**, Misawa et al disclose all of the limitations as applied to claim 89 above.

Further, Misawa et al disclose wherein the image correction unit executes the second image blur correction using a vibration detection signal output from the vibration detection unit (column 4, lines 54-62; column 13, lines 47-65).

Regarding **claim 97**, Misawa et al disclose a blur correction camera system comprising a sensor that detects a vibration by using a Coriolis force (column 1, lines 37-40; column 2, lines 59-61; column 10, lines 25-28); a blur correction optical system that is connected to the sensor and is driven in directions perpendicular to an optical axis of a photographic optical system based on a detection result of the sensor to execute a first image blur correction (column 4, lines 1-5; column 11, lines 34-42); an image capturing unit that captures an image formed by the photographic optical system that includes the blur correction optical system (column 6, lines 46-56); and an image correction unit that is connected to the sensor and executes a second image blur correction through image processing on an image captured by the image capturing unit based on the detection result of the sensor (column 4, lines 54-62; column 13, lines 47-65).

Regarding **claim 98**, Misawa et al disclose all of the limitations as applied to claim 97 above.

Further, Misawa et al disclose a reference value computing unit that computes a reference value for a vibration detection signal obtained by using the sensor (column 5, lines 9-24), wherein the image correction unit executes the second image blur correction based on a point spread function obtained by using the reference value (column 7, lines 9-55).

Regarding **claim 100**, Misawa et al disclose al of the limitations as applied to claim 98 above.

Further, Misawa et al disclose a reduction unit that reduces a volume of information relating to at least one of the reference value and the point spread function used in the second image blur correction (column 1, lines 56-62; column 7, lines 29-33).

Regarding **claim 102**, Misawa et al disclose a blur correction method comprising detecting a vibration by a sensor (column 3, lines 52-57); driving a blur correction optical system for executing a first image blur correction based on a vibration detection result obtained by using the sensor (column 4, lines 1-5); capturing an image formed with a photographic optical system that includes the blur correction optical system (column 6, lines 46-56); and executing a second image blur correction through image processing on the image thus captured based on the vibration detection results obtained by using the sensor (column 4, lines 54-62; column 13, lines 47-65).

### ***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 96 and 99 are rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al in view of Shinohara et al (US 2005/0168581 A1).

Regarding **claim 96**, Misawa et al disclose all of the limitations as applied to claim 89 above.

Misawa et al do not disclose wherein image blur corrected through the second image blur correction is a still image blur present in a still image captured by the image capturing unit.

Shinohara et al disclose wherein image blur corrected through the second image blur correction is a still image blur present in a still image captured by the image capturing unit (paragraphs 11-12).

At the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images. It would have been obvious to combine Shinohara et al with Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Shinohara et al with Misawa et al to obtain the invention as disclosed in claim 99.

Regarding **claim 99**, Misawa et al disclose all of the limitations as applied to claim 97 above.

Misawa et al do not disclose wherein image blur corrected through the second image blur correction is a still image blur present in a still image captured by the image capturing unit.

Shinohara et al disclose wherein image blur corrected through the second image blur correction is a still image blur present in a still image captured by the image capturing unit (paragraphs 11-12).

At the time of the invention, a person having ordinary skill in the art would have known to configure a motion picture camera to capture still images. It would have been obvious to combine Shinohara et al with Misawa et al in order to provide greater variety in usage of the camera device.

Therefore, it would have been obvious to combine Shinohara et al with Misawa et al to obtain the invention as disclosed in claim 99.

7. Claim 101 is rejected under 35 U.S.C. 103(a) as being unpatentable over Misawa et al in view of Min (US 2001/0010705 A1).

Regarding **claim 101**, Misawa et al disclose all of the limitations as applied to claim 97 above.

Further, Misawa et al disclose a first saving unit that saves a raw image captured by the image capturing unit (column 6, lines 53-56).

Misawa et al do not disclose a second saving unit that saves at least one of a parameter used in the second image blur correction and a restored image obtained through the second image blur correction in correspondence to the raw image.

Min discloses a second saving unit that saves at least one of a parameter used in the second image blur correction and a restored image obtained through the second image blur correction in correspondence to the raw image (paragraph 35).

At the time of the invention, it would have been obvious to combine Min with Misawa et al. The motivation for doing so would have been to have the ability to retain the restoration information for future use.



Therefore, it would have been obvious to combine Min with Misawa et al to obtain the invention as disclosed in claim 101.

***Allowable Subject Matter***

8. Claims 93-95 and 103-105 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Regarding **claim 93**, Misawa et al disclose all of the limitations as applied to claim 89 above.

However, the prior art does not disclose wherein at least one of a time period information relating to a period of time during which a still image is captured by the image capturing unit and a timing information relating to a timing at which the still image is captured by the image capturing unit is input to the image correction unit, and the image correction unit executes the second image blur correction by using the input of at least one of the time period information and the timing information.

Regarding **claim 94**, Misawa et al disclose all of the limitations as applied to claim 89 above.

However, the prior art does not disclose an image restoration decision unit that makes a decision as to whether the second image blur correction is to be executed by the image correction unit based on at least one of a focal length of the photographic optical system, a period of time during which a still image is captured by the image

capturing unit, and a blur component remaining even after the first image blur correction is executed.

Regarding **claim 95**, Misawa et al disclose all of the limitations as applied to claim 89 above.

However, the prior art does not disclose wherein image blur corrected through the second image blur correction is a blur component remaining after the first image blur correction is executed.

Regarding **claim 103 and subsequent dependent claims**, Misawa et al disclose all of the limitations as applied to claim 102 above.

However, the prior art does not disclose outputting a first vibration signal and a second vibration signal, which is different from the first vibration signal, by using the sensor; executing the first image blur correction based on the first vibration signal; and executing the second image blur correction based on the second vibration signal.

### ***Response to Arguments***

9. Applicant's arguments filed October 2, 2008 have been fully considered but they are not persuasive. Applicant states that Misawa et al do not disclose an image correction unit that executes a second image blur correction through image processing on an image captured by the image capturing unit based on the detection result of the vibration detection unit. However, Misawa et al clearly disclose an image correction unit (column 3, lines 53-54: "there is provided a camera shake correction system"; column 14, lines 5-8: "the present camera shake correction system comprises an

electronic camera shake correction part 235 and a mechanical camera shake correction part 351") that executes a second image blur correction through image processing on an image captured by the image capturing unit (column 11, lines 50-68; column 12 lines 1-13) based on the detection result of the vibration detection unit (column 13, lines 47-65: "...it is checked whether the detected angular velocity is in a horizontal or in a vertical direction. For the vertical direction, a tilting control is executed, while for the horizontal direction a panning control is carried out. Here, the tilting control means a control which allows the electronic camera shake correction part and mechanical camera shake correction part to execute a camera shake correction...").

Applicant further states that Misawa et al do not disclose using an angular sensor for electronic blur correction. However, Misawa et al disclose "...when the angular velocity sensor is smaller than a preset value, then allows only the electronic camera shake correction means to operate and, when the detected angular velocity is larger than the preset value, then allows only the mechanical camera shake correction means or both of the mechanical and electronic camera shake correction means to operate." (column 4, lines 55-62).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Kitagawa (US 5,999,746) "Camera with an auto-focusing function"

Kitazawa et al (US 6,940,542 B2) "Imaging apparatus, and method and device for shake correction in imaging apparatus"

Nishiwaki (JP 2001-203930) "Image pickup device"

11. Any response to this office action should be faxed to (571) 273-8300 or mailed to:

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Hand - delivered responses should be brought to:

Customer Service Window  
Randolph Building  
401 Dulany Street

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MICHAEL A. STRIEB whose telephone number is (571)270-3528. The examiner can normally be reached on Monday-Friday 8am-5pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Assouad can be reached on (571) 272-2210. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christopher E Mahoney/  
Primary Examiner, Art Unit 2862

MAS